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2 **CLAIMS:**

3 What is claimed is:

- 1 1. A method for monitoring replication of domain  
2 controllers and correcting problems with replication  
3 within a directory service environment, the method  
4 comprising:  
5 querying the director service for replication  
6 information;  
7 determining whether an error exist;  
8 correcting the error if an error exists; and  
9 visually displaying information regarding the  
10 progress of the domain controller replication process,  
11 wherein the information includes the identity of domain  
12 controller replication partners and the status of the  
13 replication process between any two domain controller  
14 replication partners.
- 1 2. The method as recited in claim 1, wherein correcting  
2 the error if an error exists comprises:  
3 consulting a knowledge base to determine whether an  
4 entry for an error type associated with the error exists  
5 in the knowledge base, wherein the knowledge base  
6 contains entries for error types and associated  
7 corrective actions; and

8 taking corrective actions identified by the  
9 knowledge base as associated with the error type if the  
10 error type is found in the knowledge base.

1 3. The method as recited in claim 2, further  
2 comprising:  
3 prior to taking corrective action, determining  
4 whether the corrective action is authorized under  
5 conditions as currently exist in the director service  
6 environment.

1 4. The method as recited in claim 1, further  
2 comprising:  
3 paging support personnel if it is determined that  
4 the corrective action has failed to resolve the error.

1 5. The method as recited in claim 4, further  
2 comprising:  
3 logging information regarding the nature of the  
4 error, failed corrective action taken, and personnel  
5 paged.

1 6. The method as recited in claim 1, wherein the step  
2 of visually displaying information regarding the progress  
3 of the domain controller replication process comprises  
4 graphical indicia of relationships between domain  
5 controller partners.

1 7. The method as recited in claim 6, wherein the  
2 indicia comprises a line.

1 8. The method as recited in claim 7, wherein the nature  
2 of the progress and severity of any errors related to the  
3 replication process between domain controller replication  
4 partners is indicated by color wherein different colors  
5 represent different levels of errors and lack of errors.

1 9. A computer program product in a computer readable <sup>~</sup>  
2 media for use in a data processing system for monitoring  
3 replication of domain controllers and correcting problems  
4 with replication within a directory service environment,  
5 the computer program product comprising:  
6 first instructions for querying the director service  
7 for replication information;  
8 second instructions for determining whether an error  
9 exist;  
10 third instructions for correcting the error if an  
11 error exists; and  
12 fourth instructions for visually displaying  
13 information regarding the progress of the domain  
14 controller replication process, wherein the information  
15 includes the identity of domain controller replication  
16 partners and the status of the replication process  
17 between any two domain controller replication partners.

1 10. The computer program product as recited in claim 9,  
2 wherein correcting the error if an error exists  
3 comprises:

4 fifth instructions for consulting a knowledge base  
5 to determine whether an entry for an error type  
6 associated with the error exists in the knowledge base,  
7 wherein the knowledge base contains entries for error  
8 types and associated corrective actions; and  
9 sixth instructions for taking corrective actions  
10 identified by the knowledge base as associated with the  
11 error type if the error type is found in the knowledge  
12 base.

1 11. The computer program product as recited in claim 10,  
2 further comprising:

3 seventh instructions for determining whether the  
4 corrective action is authorized under conditions as  
5 currently exist in the director service environment prior  
6 to taking corrective action.

1 12. The computer program product as recited in claim 9,  
2 further comprising:

3 fifth instructions for paging support personnel if  
4 it is determined that the corrective action has failed to  
5 resolve the error.

1 13. The computer program product as recited in claim 12,  
2 further comprising:

3 sixth instructions for logging information regarding  
4 the nature of the error, failed corrective action taken,  
5 and personnel paged.

1 14. The computer program product as recited in claim 9,  
2 wherein the step of visually displaying information  
3 regarding the progress of the domain controller  
4 replication process comprises graphical indicia of  
5 relationships between domain controller partners.

1 15. The computer program product as recited in claim 14,  
2 wherein the indicia comprises a line.

1 16. The computer program product as recited in claim 15,  
2 wherein the nature of the progress and severity of any  
3 errors related to the replication process between domain  
4 controller replication partners is indicated by color  
5 wherein different colors represent different levels of  
6 errors and lack of errors.

1 17. A system for monitoring replication of domain  
2 controllers and correcting problems with replication  
3 within a directory service environment, the system  
4 comprising:

5 first means for querying the director service for  
6 replication information;

7 second means for determining whether an error exist;

8 third means for correcting the error if an error  
9 exists; and

10        fourth means for visually displaying information  
11 regarding the progress of the domain controller  
12 replication process, wherein the information includes the  
13 identity of domain controller replication partners and  
14 the status of the replication process between any two  
15 domain controller replication partners.

1    18. The system as recited in claim 17, wherein  
2    correcting the error if an error exists comprises:  
3        fifth means for consulting a knowledge base to  
4    determine whether an entry for an error type associated  
5    with the error exists in the knowledge base, wherein the  
6    knowledge base contains entries for error types and  
7    associated corrective actions; and  
8        sixth means for taking corrective actions identified  
9    by the knowledge base as associated with the error type  
10   if the error type is found in the knowledge base.

1    19. The system as recited in claim 18, further  
2    comprising:  
3        seventh means for determining whether the corrective  
4    action is authorized under conditions as currently exist  
5    in the director service environment prior to taking  
6    corrective action.

1    20. The system as recited in claim 17, further  
2    comprising:

3 fifth means for paging support personnel if it is  
4 determined that the corrective action has failed to  
5 resolve the error.

1 21. The system as recited in claim 20, further  
2 comprising:

3 sixth means for logging information regarding the  
4 nature of the error, failed corrective action taken, and  
5 personnel paged.

1 22. The system as recited in claim 17, wherein the step  
2 of visually displaying information regarding the progress  
3 of the domain controller replication process comprises  
4 graphical indicia of relationships between domain  
5 controller partners.

1 23. The system as recited in claim 22, wherein the  
2 indicia comprises a line.

1 24. The system as recited in claim 23, wherein the  
2 nature of the progress and severity of any errors related  
3 to the replication process between domain controller  
4 replication partners is indicated by color wherein  
5 different colors represent different levels of errors and  
6 lack of errors.

1 25. A graphical user interface for providing a user with<sup>u</sup>  
2 information concerning a domain controller replication

3 process in a directory service environment, the graphical  
4 user interface comprising:  
5 visual representations of domain controllers within  
6 the environment; and  
7 visual indicia indicating an identity of a domain  
8 controller's replication partner; wherein  
9 the visual indicia indicate whether errors in the  
10 replication process exist between the domain controller  
11 and the domain controller's replication partner.

1 26. The graphical user interface as recited in claim 25,  
2 wherein the visual representations comprise icons.

1 27. The graphical user interface as recited in claim 25,  
2 wherein the visual representations comprise pictorial  
3 representations of domain controllers.

1 28. The graphical user interface as recited in claim 25,  
2 wherein the visual indicia comprises a line between a  
3 domain controller and the domain controller's replication  
4 partner.

1 29. The graphical user interface as recited in claim 28,  
2 wherein the line is one of a solid bold line, a dashed  
3 bold line, and a solid unbold line, wherein each of the  
4 solid bold line, dashed bold line, and solid unbold line  
5 represent different performance levels of the replication  
6 process.



1 30. The graphical user interface as recited in claim 28,  
2 wherein differing line colors represent different  
3 performance levels of the replication process between the  
4 domain controller and the domain controller's replication  
5 partner.

1 31. The graphical user interface as recited in claim 25,  
2 wherein at least one of the visual representations and  
3 visual indicia are selectable by a user to provide  
4 additional information about the replication progress.